

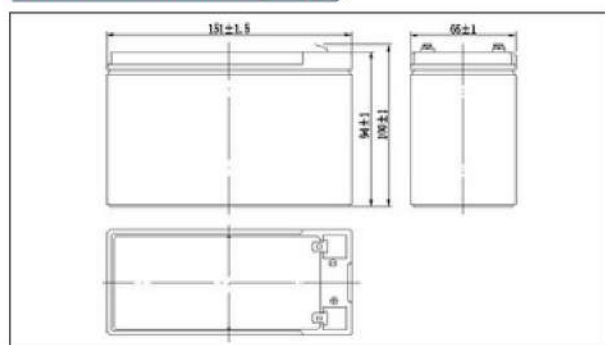
HR1228W-FR (12V28 Watts/cell)

Specifications

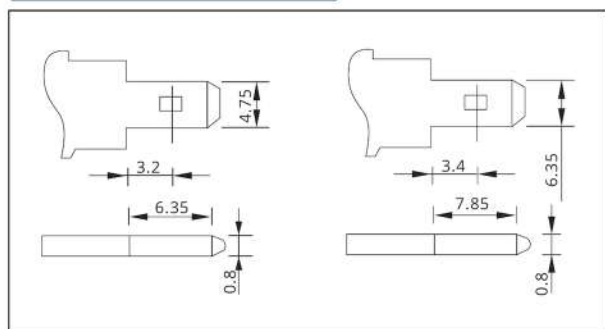
Nominal Voltage		12V
Number of cells		6 cells
Rated capacity (15 min.)		28 watts/cell
Dimensions	Length	151+/-1mm
	Width	65+/-1mm
	Height	194+/-1mm
	Total height	100+/-1mm
Approximated weight		2.1kgs+/-5%



Outer dimensions (mm)



Terminal Type (mm)



Characteristics

Capacity (20HR,25°C)		7.5Ah
Capacity (15min.rate,25°C)		28W/Cell
Terminal type		T1/T2
Internal resistance (Fully charged @ 25°C)		19mΩ
Capacity affected by temperature (10HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-discharge (25°C)	3 months	Remaining capacity 91%
	6 months	Remaining capacity 82%
	12 months	Remaining capacity 65%
Nominal operating temperature		25°C ± 3°C
Operating temperature range	Discharge	-15°C - 50°C
	Charge	-15°C - 50°C
	Storage	-20°C - 50°C
Float charging voltage (25°C)		13.5 to 13.80V Temp. compensation -18mV/°C
Cyclic charging voltage (25°C)		14.5 to 15.00V Temp. compensation -30mV/°C
Maximum charging current		2.9A
Maximum discharge current		135A (5 sec.)
Short-circuit current		350A
Designed floating life (20°C)		10 years

Construction

Component	Positive plate	Negative plate	Container	Cover	Separator	Electrolyte	Safety valve	Terminal
Raw material	Lead dioxide	Lead	ABS	ABS	AGM	Sulfuric acid	Rubber	Copper

Constant Current Discharge Characteristics Unit:A/C (25°C, 77°F)

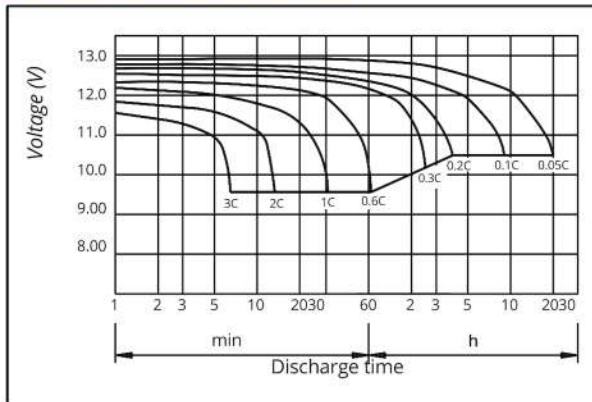
F.V/Time	5min	10min	15min	20min	30min	45min	60min	2h	3h	4h	5h
1.60V/cell	31.8	21.8	18.5	14.8	9.8	6.80	4.8	3.8	2.8	1.8	1.72
1.67V/cell	29.7	20.7	17.7	14.1	9.3	5.84	4.7	3.7	2.7	1.7	1.61
1.70V/cell	29.2	20.2	17.2	13.8	9.2	5.72	4.64	3.6	2.6	1.6	1.60
1.75V/cell	28.3	19.3	16.8	13.3	8.3	5.55	4.5	3.3	2.3	1.3	1.59
1.80V/cell	26.1	19.1	16.1	13.1	8.1	5.31	4.4	3.1	2.1	1.1	1.55

Constant Power Discharge Characteristics Unit:W/C (25°C, 77°C)

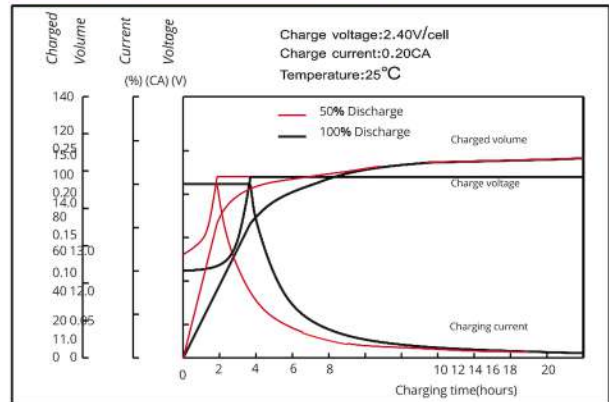
F.V/Time	5min	10min	15min	20min	30min	45min	60min	2h	3h	4h	5h
1.60V/cell	54.8	36.8	29.8	24.9	18.9	14.8	13.8	9.58	7.82	5.80	3.27
1.67V/cell	57.7	34.7	29.0	23.8	17.7	13.7	12.7	9.52	7.78	5.77	3.24
1.70V/cell	56.7	33.9	28.2	23.2	17.2	12.3	12.2	9.48	7.66	5.75	3.22
1.75V/cell	54.9	32.3	27.3	22.3	16.5	12.1	11.8	9.39	7.63	5.73	3.20
1.80V/cell	51.4	31.1	26.3	21.1	15.9	11.5	11.4	9.22	7.49	5.61	3.11

HR1221W-FR (12V21 Watts/cell)

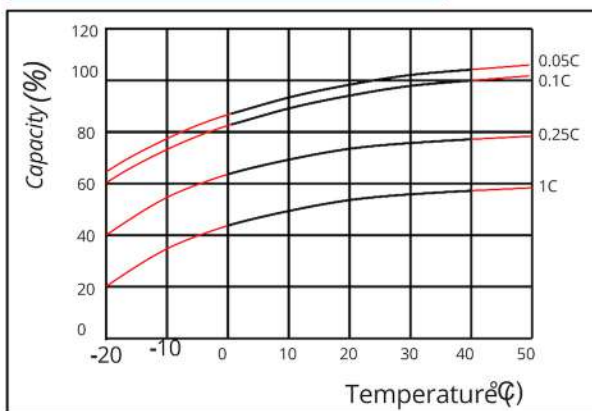
Discharge characteristics(25°C)



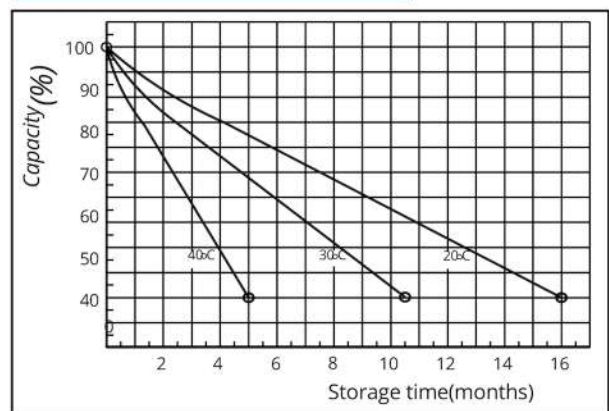
Charging characteristics (25°C)



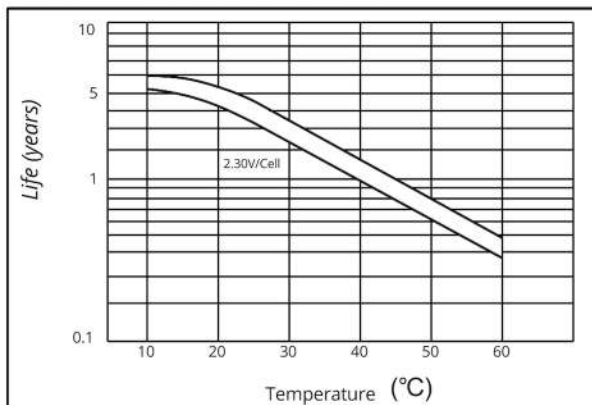
Effect of Temperature on Capacity



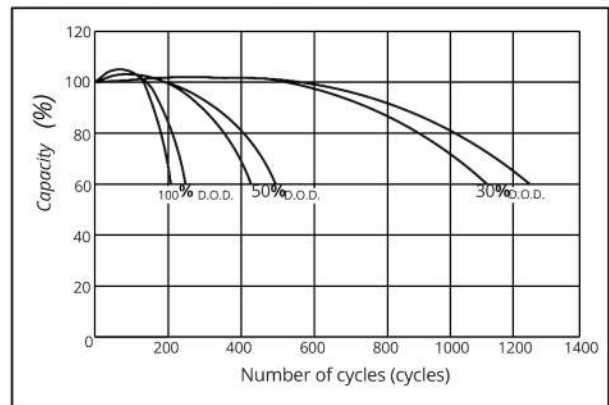
Self-discharge characteristics



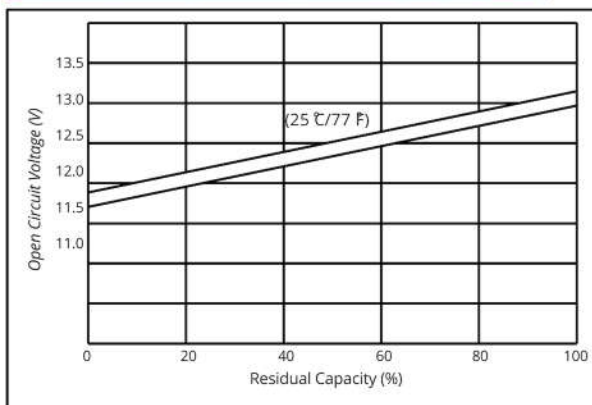
Floating Life on Temperature



Cycle service Life on D.O.D



The relationship for OCV and Capacity (25°C)



The relationship for Charging voltage and Temperature

